



**Arab Republic Of Egypt**

**And**

**United Nations Development Programme**

**UNDP Energy Thematic Trust Fund**

**Establishment of a Testing Laboratory for Energy Efficiency and labeling program**

**Brief description**

The overall objective of this project is to assist Egypt in improving its energy efficiency by supporting a regulatory regime to enforce national energy efficiency standards and labeling program. This will be achieved through complementing the ongoing UNDP/GEF project (GEF/UNDP: EGY/97/G31/A/1G/99) to complete a missing building block of an efficient and sustainable national standards and labeling program. This missing building block is an accredited energy efficiency testing laboratory. This intervention will provide assistance to upgrade an existing testing facility to be an accredited one and, to build the capacity of Egypt's regulatory authorities, and appliances manufacturers on issues of enforcement and compliance of mandatory energy efficiency standards and labels.

## **List of Acronyms**

EEAA	Egyptian Environmental Affairs Agency
EEIGGR	Energy Efficiency Improvement and Greenhouse Gas Reduction
EPPP	Egyptian Environmental Policy Program
EGAC	Egyptian Accreditation Council
EOS	Egyptian Organization for Standardization
GEF	Global Environment Facility
GHG	Greenhouse Gas
GOE	Government of Egypt
NEAP	National Environmental Action Plan
NEES	National Energy Efficiency Strategy
NREA	New and Renewable Energy Authority
OEP	Organization for Energy Planning
PTD	Project Technical Director
TDA	Tourism Development Authority
TTF	Thematic Trust Fund
UNDP	United Nations Development Programme

## **Establishment of a Testing Laboratory for Energy Efficiency and labeling program**

### **Part Ia. Situation Analysis**

Egypt is an oil and gas producing country. Its relatively limited hydrocarbon exports is, however, one of the main sources of national income. In addition, Egypt is heavily dependent on fossil fuel (94%) to meet its growing energy demand. One of the most alarming energy issues in Egypt has been the poor level of energy efficiency in different consuming sectors. This has led to growth of electricity demand that surpasses the economic and population growth rates. Well-balanced supply and demand strategies have been adopted to promote energy efficiency as a means to achieve sustainable development. The numerous benefits of energy efficiency to the Egyptian economy include increasing hydrocarbon surplus available for exports, enhancing profitability of industry and competitiveness in the world market, decreasing demand on investments in the power sector, creating new jobs, and improving environmental quality.

The energy sector in Egypt has had the benefits of substantial donor assistance over the past three decades. That assistance has created a strong foundation upon which this intervention of UNDP Energy Thematic Trust Fund (TTF) is designed.

In 1998, the government of Egypt was supported by US\$ 5.9 million GEF/UNDP funding to implement the “Energy Efficiency Improvement and Greenhouse Gases Reduction” (EEIGGR) project<sup>1</sup>. The objective of the EEIGGR project is to assist Egypt in reducing long-term growth of GHG emissions from the electric power generation, and consumption of fossil fuels. This is to be achieved through a range of activities including the development of national energy efficiency standards and labeling program. Standards and labeling programs provide enormous energy savings potential that can improve end-use efficiency and contribute significantly to sustainable development. They also have the potential of bringing benefits to consumers through less spending on electric bills and increasing consumer purchasing power for other products, thus, helping in the increase of cash flow in the local economy. For manufacturers, standards and labeling programs would improve competitiveness in the international markets and improve national trade balance. A national standards and labeling program is defined as a set of elements that ensure that energy efficiency standards and labeling efforts are effective, appropriate, strengthened over time, and sustained. Its building blocks include accredited test facilities, appropriate test procedures, and supportive energy policy framework<sup>2</sup>.

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<sup>1</sup> EGY/97/G31/A/1G/99 and UNDP#EGY/97/003

<sup>2</sup> [www.clasponline.org](http://www.clasponline.org)

Mid-term evaluation of the (EEIGGR) conducted by UNDP in 2002 has identified the need for an appliance testing facility to complement the ongoing national energy efficiency standards and labeling program<sup>3</sup>. Another recent study by the World Bank indicated that the Energy efficiency standards and labeling program is a cost effective option for Egypt and it recommended the establishment of a testing facility to support the ongoing program<sup>4</sup>. The EEIGGR, in cooperation with the Organization for Energy Planning (OEP), and the Egyptian Organization for Standardization (EOS) has successfully developed the energy efficiency standards and energy labels for the two most market-penetrated appliances in Egypt, namely, room air conditioners and refrigerators. The Ministry of Industry and technological developments, responsible for standards setting in Egypt has issued a regulatory decree to enforce the two standards and labels<sup>5</sup>. This UNDP energy TTF project will complement the ongoing UNDP/GEF project to complete the missing building block of an efficient and sustainable national standards and labeling program by providing assistance to establish an accredited energy efficiency testing laboratory.

## **Ib. Strategy**

The National Energy Efficiency Strategy (NEES) was developed in 2000 as part of the Egyptian Environmental Policy Program (EEPP) jointly implemented by the Egyptian Environmental Affairs Agency (EEAA), the Organization for Energy Planning (OEP), the Tourism Development Authority (TDA) and supported by USAID. The NEES consists of a set of energy policy instruments including the development of a national energy standard and labeling program. These policy instruments aim primarily at removing existing barriers, which hinder improved energy efficiency. The Government of Egypt is committed to implementing the different NEES components including the ongoing national energy efficiency and labeling program. Some initial steps to develop such a program have been already completed, and some others are underway. The Minister of Industry and technological development has issued the decree Number 266 for the year 2002. This decree set the energy efficiency standards for both room air conditioners and refrigerators. Another decree to enforce the use of energy labels in the relevant regulated appliances is to be issued soon. In addition, work has almost been completed to develop energy efficiency standards and labels for cloth washing machines while other plans to continue work in developing more standards are envisioned. Furthermore, the Government has offered to support the national energy efficiency standards and labeling program by upgrading an existing testing facility at the New and Renewable Energy Authority (NREA) in order to be capable of performing necessary energy efficiency tests. This testing facility at NREA was established with support from the European Community in 1998. It was mainly built to undertake testing of renewable energy technologies, however, it offers indoor,

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<sup>3</sup> Energy Efficiency Improvement and Greenhouse Gases Reduction” (EEIGGR) project, Mid-term evaluation, 2002

<sup>4</sup> Energy - environment review for Egypt, World bank / EEAA, Aug.2002

<sup>5</sup> Decree No. 266 for the year 2002

outdoor, and mobile testing capabilities, which can be upgraded to serve the purpose of the standards and labeling program. A government operating standard and labeling program must have a facility that can perform reliable and unbiased energy tests. This independent facility can be either privately operated or government operated. A testing facility of national energy efficiency and labeling program is where the energy tests are randomly performed. Almost every appliance requires a unique set-up for an energy efficiency test. For example, a refrigerator requires an environmental chamber and an air conditioner requires a colorimeter chamber, and so on. Regardless of who actually performs the energy tests, the government must establish a procedure for monitoring compliance with the label or standard. The process must indicate how tested appliances are to be selected from the factory inventory or off the floor of appliance stores, the number of units to be tested, and who pays for the tests. An aggressive policy is advisable in the beginning so that the manufacturers take the standard or label procedures seriously. This intervention from the UNDP Energy TTF would support a regulatory regime to promote energy efficiency within a framework of national energy efficiency strategy by providing the needed assistance to enforce national energy efficiency standards and labeling program. In this respect TTF contribution shall be allocated for purchase of the testing equipment and training on operation while NREA will cover the construction cost of the environmental chambers that will host the testing equipment.

## Part II. Results Framework

<b>Intended outcome as stated in the Country results Framework:</b> Improved capacity of national/sectoral authorities to plan and implement integrated approaches to environment and energy conservation.					
<b>Outcome Indicator as stated in the Country results Framework:</b> Integration of National Environmental Action Plan (NEAP) into national development plan					
<b>Project Title:</b> Establishment of a Testing Laboratory for Energy Efficiency and labeling program					
<i>Intended outputs</i>	<i>Indicators</i>	<i>Targets For Indicators</i>	<i>Activities</i>	<i>Inputs(US\$)</i>	<i>Responsible Body</i>
1. Testing facility established	Number of energy efficiency tests performed  Establishment of the testing Laboratory	Enforcement capacity on standards and labels of the government of Egypt improved.  Operational testing facility	1.1 Assess initial needs 1.2 Prepare bidding documents for testing equipment. 1.3 (Procurement of and training on air conditioner and refrigerator testing equipment) 1.4 Design and prepare bidding documents for civil engineering works of the environmental chambers hosting testing equipment. 1.5 Construct environmental chambers. 1.6 Install and start up testing equipment	GEF: 6,400 GEF: 6,400  GEF: 251,000 GOE: 8,700 GEF: 10,000  GOE: 28,700  GEF: 6,400	Intl. Consultant Intl. Consultant  Intl. Contractor Intl. Consultant Nat Consultant Nat. Consultant  Nat. Contractor  Intl. Consultant Intl. Contractor

2. Training of testing facility personnel	Number of personnel trained	Capacity building of NREA, EOS, appliances manufacturers	2.1 Organize training workshop on standards and labels.	GEF: 3,300	Nat Consultants
			2.2 Organize training workshop on enforcement of efficiency standards.	GOE: 4,200	Nat Consultants
			2.3 On-the-job- training on appliances testing.	GEF: 3,300	Equipment supplier
3. Public awareness	Number of media coverage	Public awareness on standards and labels improved	3.1 Organize awareness seminar for manufactures.	GEF: 6,600	Nat. Consultants
			3.2 Organize awareness seminar for media.	GOE: 5,700	Nat. Consultants
			3.3 Disseminate press releases		
4.A plan for accreditation of the testing facility		Testing facility accredited	4.1 Assess accreditation requirements from the Egyptian Accreditation Council	GOE: 2,700	Nat Consultants
			4.2 Develop plan to meet accreditation requirements.	GEF: 6,600	NatConsultants

### **Part III. Management Arrangements**

This project will be nationally executed with full responsibility assigned to the New and Renewable Energy Authority (NREA) of the Government of Egypt, in which the proposed testing facility will be hosted. The purpose of doing so is mainly to strengthen the institutional capacity of NREA on issues of energy efficiency testing and certification, and to ensure sustainability of the ongoing national energy efficiency and labeling program after completion of the ongoing GEF/UNDP project. Furthermore, this will also ensure sustainability at the end of this complementary UNDP energy TTF project. NREA would seek accreditation of the new testing facility from the Egyptian Accreditation Council (EGAC)<sup>6</sup> headed by the Minister of Industry and Technology Development. It will also coordinate with the Egyptian Organization for Standardization (EOS), and other government agencies responsible for law enforcement of standards. This UNDP Energy TTF project would build the capacity of those organizations on enforcement and compliance of the newly developed energy efficiency standards and labels. In addition, NREA would coordinate with the local manufactures and importers of home appliances to help them comply with the new mandatory standards and labels at the end of the grace period (30 June 2003) by offering testing and certification services. Other stakeholders include the Organization for Energy Planning (OEP), which has led the efforts of developing the efficiency standards and labels within EEIGGR. OEP would actively contribute to the needs assessment of the required testing facility, and to the issues of testing, certification, and enforcement and compliance.

This project would be managed through the existing project management unit of the ongoing GEF/UNDP EGY/97/G31/A/1G/99 project. This would make use of the existing management and administrative support, and would capitalize on the well-established working relationships with different stakeholders. Further, it would ensure full coordination between the two projects as they are complementing each other. The Project Technical Director (PTD) of EEIGGR is fully aware of this project and he has been involved in its development from the outset. The PTD will be assisted by a full-time project coordinator at NREA who will be responsible for day-to-day coordination of different project activities with the PTD. S/he will also liaise between the project management unit at EEIGGR and NREA, and secure NREA's resources needed for project implementation. The chairman of NREA will assign the project coordinator. A project advisory group will be formed from a small number of recognized national experts who can provide, as-needed technical and policy guidance on the project activities. Membership of this group is expected at least to include national expertise on home appliances industry, testing, certification and accreditation, energy efficiency, compliance and enforcement, public education, and consumer protection. This group would meet at least quarterly and as needed on the request of the PTD. A project management organization chart is displayed in Annex (1).

Due to the short time available for project completion, the project will be subject to tripartite review by the Government of Egypt, UNDP, and the executing agency at least once during implementation. The PTD assisted by the project coordinator will be

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<sup>6</sup> Presidential decree No. 312 for the year 1996

responsible for preparation and submission of quarterly progress reports to the executing agency and UNDP. Further, the PTD will prepare a project technical report for consideration by the Government of Egypt, and UNDP at the end of project. A project workplan is shown in Annex (2)

#### **Part IV. Legal Context**

This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Egypt and the United Nations Development Programme, signed by the parties on 19 January 1987.

The following types of revisions may be made to this Project Document with the signature of the UNDP Resident Representative only, provided he or she is assured that the other signatories of the Project Document have no objections to the proposed changes:

1. Revision in, or addition of, any of the annexes of the Project Document.
2. Revisions, which do not involve significant changes in the Outcomes, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation.
3. Mandatory annual revisions that re-phase delivery of agreed project inputs or increased expert of other costs due to inflation or take into account agency expenditure flexibility.

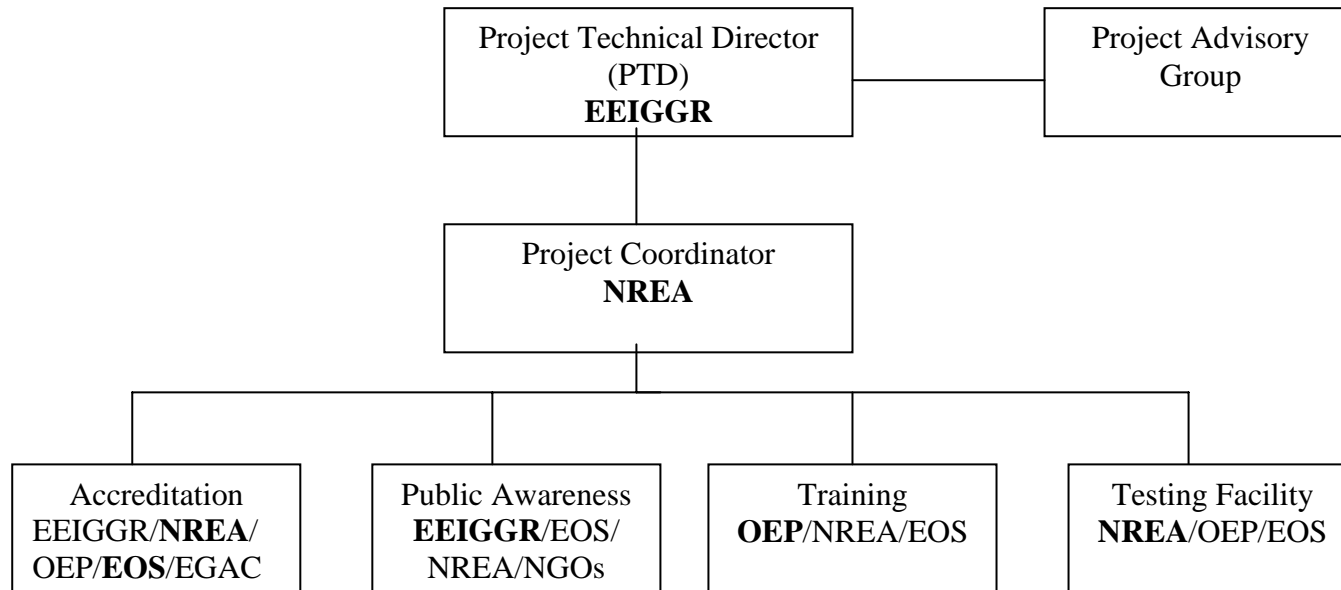
#### **Part V Budget**

The project budget is displayed in Annex (3). The budget breakdown in Table (1) is for the cash contributions of US\$ 300,000 from UNDP Energy TTF as well as the US\$ 50,000 parallel funding from NREA to cover construction works. Table 2 shows in-kind contribution of the Government of Egypt that amounts to US\$ 1.5 million which represents the existing testing facilities at NREA that will be upgraded and complemented.

ANNEX (1)

**Establishment of a Testing Laboratory for Energy Efficiency and labeling program**

**Management structure**



N.B. Institutions in **Bold** is leading

**Annex (2)**

**Workplan**

Activities	Q1			Q2			Q3			Q4		
1.1 Assess initial needs	■											
1.2 Prepare bidding documents for testing equipment	■	■										
1.3 Procure testing equipment.			■	■	■	■						
1.4 Design and prepare civil engineering documents for environmental rooms							■					
1.5 Construct environmental rooms								■	■			
1.6 Install and start up testing equipment										■		
2.1 Organize training workshop on standards and labels.			■									
2.2 Organize training workshop on enforcement of efficiency standards						■						
2.3 On-the-job- training on appliances testing.											■	
3.1 Organize awareness seminar for manufactures.				■								
3.2 Organize awareness seminar for media.			■									
3.3 Disseminate press releases	■		■	■			■		■	■		■
4.1 Assess accreditation requirements from EGAC				■								
4.2 Develop plan to meet accreditation requirements.					■	■	■	■	■	■	■	■

### Annex (3)

**Table (1): Project Budget**

Budget line	Description	UNDP TTF		GOE Contribution		Project Total	
		W/M	US\$	W/M	US\$	W/M	US\$
10	Project Personnel						
11	Int. Personnel						
11.01	Initial Need Assessment and	0.5	6,400			0.5	6,400
11.02	Bid documents preparation	0.5	6,400			0.5	6,400
11.03	Installation and start up	0.5	6,400			0.5	6,400
11.99	Sub-total	1.5	19,200			1.5	19,200
13	Administrative support						
15	Monitoring and evaluation		5,000				5,000
16	Mission costs						
17	National professionals						
17.01	Procurement	4	8,800	15	7,500	19	16,300
17.02	Training	3	6,600	6	3,000	9	9,600
17.03	Awareness	3	6,600	9	4,500	12	11,100
17.04	Accreditation	3	6,600	3	1,500	6	8,100
17.05	Project Advisory Group	10	22,000			10	22,000
17.06	Project Coordinator			12	6,000	12	6,000
17.99	Sub-total	23	50,600	45	22,500	68	73,100
19	Component total		74,800		22,500		97,300
20	Contracts						
20.1	Civil Engineering documents for environmental rooms.		10,000				10,000

20.2	Supply and training on air conditioner testing facilities		108,200				108,200
20.3	Supply and training on refrigerator testing facilities		100,000				100,000
20.4	Construction of for environmental rooms				27,500		27,500
29	Component total		218,200		27,500		245,700
30	Training						
31	Fellowships						
32	Other training						
39	Component total						
40	Equipment						
45.01	Expendable						
45.02	Non-expendable						
45.99	Sub-total						
49	Component total						
50	Miscellaneous		2,000				2,000
52.01	Reporting costs						
52.02	Communication		5,000				5,000
59	Component total						
90	Total		300,000		50,000		350,000
99	Project total						350,000
100	Cost-sharing						
103	Government Cost-sharing						50,000
109	Component total						
	Country office admin.						
	Total Cost sharing						50,000
999	Net UNDP contribution		300,000				

**Table (2)**

**Government In-kind Contribution**

<b>Budget Item</b>	<b>US\$</b>
Existing Testing Facility at NREA	1,455,000
Utilities	30,000
Supplies	10,000
Telecommunications	5,000
<b>Total</b>	<b>1,500,000</b>